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*Published to advance the Science of cold-blooded vertebrates*

## FURTHER NOTES ON ERILEPIS, THE GIANT BASS-LIKE FISH OF THE NORTH PACIFIC.

In COPEIA for April 24, 1916, (No. 30) the writer noted the second occurrence of *Erilepis zonifer* (Lockington) in the North Pacific. Since then several interesting facts have come to light concerning this huge fish that have modified what was previously said. It is especially noteworthy that there is no special reason for believing the fish a stray from Japan, as has been conjectured.

According to one of the fishermen, the specimen already recorded had been taken in "Southeastern Alaska, in one of the long inland straits which form the inland passage, either in Frederick Sound or Chatham Straits." The captain of the halibut schooner, however, when seen at a later date stated positively that the specimen was taken off the western coast of the Queen Charlottes, near the northern end. His record is undoubtedly correct, and it is evident that *Erilepis* was taken on the continental shelf, rather than in enclosed waters.

While in Vancouver during November, at the plant of the Canadian Fishing Company, the writer was shown two other specimens of this fish. Under

the heading "A Freak Fish," a statement with a photograph of the larger was given in the "Pacific Fisherman" for November, as follows: "While the halibut schooner Borealis was fishing with halibut trawls in 240 fathoms of water in Rennel Sound on the west coast of Queen Charlotte Island, British Columbia, during October, a fish which weighed, in the round 175 pounds, and when dressed 145 pounds, was caught. It measured 5 feet 10 inches in length." The opinion was expressed that it was "a large sea bass," from "Southern Pacific waters." The large example was given to the British Columbia Provincial Museum, where a cast will be made and placed on exhibition. Through the kindness of the company manager a smaller specimen caught at the same time was sent to Stanford University in a frozen condition. There it has been carefully examined, and compared with a Japanese specimen, undoubtedly the same species.

It will be noted that the locality was the same as the corrected one for the first specimen. The probability is that there is an available explanation for the occurrences. In the region indicated, the continental shelf drops with great rapidity to oceanic depths, and a halibut trawl set in 150 fathoms on its shoreward end frequently drops as far as its buoys will allow it on the seaward end. This may be as much as 400 fathoms. It has only been in recent years, particularly in the winter, that halibut fishing has been carried on in depths of 140 fathoms and more, as has been shown in the reports of the British Columbia Commissioner of Fisheries for 1915. The cousin of the present species, the Alaska black cod *Anoplopoma*, inhabits considerable depths also, and in the last few years more of them are being caught by the halibut boats. The fishermen even occasionally bring up Macrourid species, formerly utterly unknown to them. This "rare" fish, then, has perhaps been

caught by the fishermen while they were utilizing unusual depths, and it may well be common and relatively abundant in its peculiar habitat.

The Japanese fishermen, it is worthy of note, fish their waters more closely than is done on our coasts, and Dr. Jordan and Prof. Snyder say: "According to Kuma Aoki, an intelligent fisherman of Misaki, it is occasionally taken in the Kuro Siwo, it is not rare, and reaches a weight of 200 pounds. Although so rare in collections the species is well known to the fishermen." There is no good reason why more extensive exploitation of our fishing grounds will not bring to light at least an abundance equal to that of the species in Japan. It is hence unjust to call the fish a "stray," and one must be reserved in calling it "rare."

Since the only specimens known to be preserved in museums have come from Japan, and the type of the species (from Monterey, California,) which was in the collection of the California Academy of Sciences in San Francisco has been destroyed, the following notes regarding the specimen now at hand are appended.

The fish, 112 cm. in total length and 98 to base of caudal, is bass-like with massive head and rotund body, its width  $\frac{2}{3}$  its depth, but with somewhat slender caudal peduncle, nearly round and quickly tapering. The interorbital is wide, convex. The eyes are small, slightly oval, lateral in outlook, and over a wide sub-orbital. The maxillary ends below the center of the pupil. The lower jaw projects somewhat; its tip, lying in the axis of the body, continues the profile lines of the head and body, which taper evenly anteriorly and posteriorly.

The teeth are in a band six or seven series wide anteriorly in the upper jaw, four or five below, narrowing posteriorly; recurved, slender and sharp; none of them canine-like, or enlarged; in a V shaped patch

on vomer; in narrow bands on palatines. The gill arches and viscera were removed when the fish was frozen.

The dorsals are apparently separated by the space of two spines, but dissection shows these to be present, buried below the thick skin; two anterior spines are very short; the third is the longest, with the margin of the fin falling straightly to the first buried spine; preceding the soft rays are two unjointed rays (or spines), closely applied to the third. The soft dorsal is highest at the fifth ray, slightly emarginate in outline. When supine the longest dorsal ray reaches over the basis of seven following rays, while that of the similarly shaped anal reaches to the base of the last. The last rays in both fins are less in length than the eye diameter. The pectorals are a little falcate in shape, and extend back to the level of the eighth dorsal spine. The ventrals are inserted a short distance behind the pectorals.

Scales are present everywhere on exposed surfaces save the lips, edges of fins, membranes of spinous dorsal, edges of branchiostegal flaps, and the inner surfaces of paired fins; rough to touch, they are not roughly ctenoid; they appear non-imbricate because buried deeply.

The color is very dark, save for projecting whitish edges of scales; only traces of dark bands are present, one as wide as  $\frac{2}{3}$  of the head length lying under the pectorals, 3 others of equal width respectively just before the vent, over the posterior two-thirds of the anal, and on the caudal peduncle. Ventrally the body is not markedly lighter than dorsally. The peritoneum is scraped away, but the buccal lining shows very dark. Lips and fin edges are black, with strong tinges of blue.

The measurements follow: Head .32 of length to base of caudal; depth .30; body width .19; eye .045; maxillary length .13; width .032; suborbital width

.04; snout length .11; mandible .16; interorbital .12; pectoral base .075; length .18; ventral .125; 3rd dorsal spine .085; 5th dorsal ray .11; last .037; 5th anal ray .12; last .037; soft dorsal base .25; anal base .16; depth of caudal peduncle .085; width .07; dorsal rays XIII, II 17; anal II 13; pores in lateral line .126; scales from lateral line obliquely forward and upward to dorsal insertion 30, downward and backward to anal 51; pectoral rays 19; branchiostegals 7.

WILL F. THOMPSON,  
*British Columbia Fisheries Dept.*

### ANOTHER RECORD FOR *ASCAPHUS* *TRUEI* STEJNEGER.

There have been, to the writer's knowledge, but two additional records for the American Bell Toad, *Ascaphus truei*, since the report of the capture of the single original specimen (the type of a new genus and the only member of the family *Discoglossidae* known from the Western Hemisphere). The type was found nineteen years ago at Humptulips, Chehalis County, in southwestern Washington. In 1906 the species was discovered on the southeast slope of Mount Ranier at an altitude of 6,000 feet, and was taken later on the same mountain at 4,861 feet altitude on the southwest side.<sup>1</sup>

Dr. A. C. Chandler of the Oregon Agricultural College, Corvallis, Oregon, has recently sent the writer a specimen of *Ascaphus truei* taken in Oregon. Dr. Chandler's specimen was captured on Red Creek in the Santiam National Forest, Linn County, Oregon, at an altitude of 3,000 feet. The district is a heavily forested one; and trees common in the locality are Douglas Fir, Coast Hemlock and *Pinus monticola*. The "toad" was found at the edge of the creek which is here a cold, swift mountain-stream.

Judging from the cartilaginous condition of the limb bones and the skull-roof and the small size the

<sup>1</sup>Van Denburgh, Proc. Calif. Acad. Sci., ser. 4, 3, 1912, pp. 259-264.